

Virtual personalized exercise program for subjects with lung cancer: A feasibility study.

Melissa Francoise Neumann, Susan Maltser, Meredith Akerman, Sameer Khanijo, Jennifer Scanlon, Nagashree Seetharamu; Zuckerberg Cancer Center, Northwell Health, Lake Success, NY; Northwell Health, Manhasset, NY; Northwell Health Biostatistics, Lake Success, NY; Northwell Health, New Hyde Park, NY; Northwell Health, New York, NY

Background: With improved outcomes, cancer is increasingly viewed as a chronic disease, highlighting the need for exercise programs to enhance the quality of life for survivors. Unlike heart disease, diabetes, and pulmonary disease, where exercise has been recommended for decades, exercise recommendations for cancer patients have been slow to evolve. Exercise and rehabilitation interventions have shown to clearly benefit cancer survivors by improving outcomes, response and tolerability to treatments, delaying progression, and preventing development of new primary cancer. Despite these benefits and strong endorsements from societies such as ASCO, exercise programs are not typically included in lung cancer treatment plans. **Methods:** This is a single-arm, investigator-initiated feasibility study of a virtual exercise platform targeted to patients with non-small cell lung cancer (NSCLC) who receive surgery (+/-) neoadjuvant/adjuvant chemo (+/-) immunotherapy (cohort A); radiation +/- chemo (cohort B); or systemic treatment only (cohort C) at our Cancer Center. This study will assess the feasibility and usability of this program. Potentially eligible subjects are referred to psychiatry for evaluation, enrollment, and personalized virtual exercise prescription, which can be accessed by patients using their personal electronic device. Enrollees complete a baseline quality of life FACT-L questionnaire. Pulmonary Function Test (PFT), Six Minute Walk Test (6MWT), and Sit to Stand Test (STS) are also obtained at the start and end of the 12-month program. FACT-L, Patient and Physician Platform Satisfaction questionnaires are collected every three months. We hypothesize that the virtual exercise program is feasible for patients with lung cancer to participate in and will have beneficial outcomes across all cohorts. The primary objective is feasibility, aiming for 50% of those who qualify and enroll to complete the program at 12 months. The secondary objective is satisfaction, as assessed by patient and provider satisfaction questionnaires. Exploratory objectives include improvement in pulmonary function tests and physical endurance as assessed by the PFTs, 6MWT, and STS, as well as improvement or maintenance of quality of life. **Results:** 20 patients are consented and 10 are active. Of the 10 patients who are no longer part of the study, four were screen-fails, and six patients withdrew consent/did not comply with appointments within the study timeline. Patient compliance increased exponentially after the patient navigator was recruited, who started at the end of November. Since this time, six consents were signed and four remain compliant with the study. **Conclusions:** If feasible and acceptable to patients and providers, this program can be practice-changing, leading to the implementation of virtual exercise prescriptions for patients with all cancer types within Northwell and potentially beyond. Clinical trial information: NCT06540495. Research Sponsor: The Northwell Health Cancer Institute; AstraZeneca; Global Initiatives Group at Northwell.